

engines and maintain flight for the maximum diversion time capability being certified.

Discussion: The Electronic Flight Control System installations establish the criticality of the electrical power generation and distribution systems, since the loss of all electrical power may be catastrophic to the aircraft.

The Saab 2000 fly-by-wire control system requires a continuous source of electrical power in order to maintain the flight control system. The current § 25.1351(d), "Operation Without Normal Electrical Power," requires safe operation in visual flight rules (VFR) conditions for at least five minutes with inoperative normal power. This rule was structured around a traditional design utilizing mechanical control cables for flight control while the crew took time to sort out the electrical failure and was able to re-establish some of the electrical power generation capability.

In order to maintain the same level of safety associated with traditional designs, the Saab 2000 design must not be time limited in its operation without the normal source of engine generated electrical power. It should be noted that service experience has shown that the loss of all electrical power which is generated by the airplane's engines is not extremely improbable. Thus, it must be demonstrated that the airplane can continue safe flight and landing with the use of its emergency electrical power systems (batteries, auxiliary power unit, etc.). This emergency electrical power system must be able to power loads that are essential for continued safe flight and landing. Also, the availability of emergency electrical power sources, including any credit taken for APU start reliability, must be validated in a manner acceptable to the FAA.

The emergency electrical power system must be designed to supply:

- electrical power required for immediate safety, which must continue to operate without the need for crew action following the loss of the normal electrical power system;
- electrical power required for continued safe-flight and landing;
- electrical power required to restart the engines.

For compliance purposes:

1. A test demonstration of the loss of normal engine generated power is to be established such that:

a. The failure condition should be assumed to occur during night instrument meteorological conditions (IMC) at the most critical phase of flight relative to the electrical power system design and distribution of equipment loads on the system.

b. After the unrestorable loss of the source of normal electrical power, the airplane engines must be capable of being restarted and operations continued in IMC until visual meteorological conditions (VMC) can be reached. (A reasonable assumption can be made that turbine engine driven transport category airplanes will not have to remain in IMC for more than 30 minutes after experiencing the loss of normal electrical power).

c. After 30 minutes of operation in IMC, the airplane should be demonstrated to be

capable of continuous safe flight and landing in VMC conditions. The length of time in VMC conditions must be computed based on the maximum flight duration capability for which the airplane is being certified. Consideration for speed reductions resulting from the associated failure must be made.

2. Since the availability of the emergency electrical power system operation is necessary for safe-flight, this system must be available before each flight.

3. The emergency electrical power system must be shown to be satisfactorily operational in all flight regimes.

2. *Command Signal Integrity.* In addition to compliance with § 25.671 of the FAR, it must be shown that for the Elevator Electronic Flight Control System (EFCS):

(a) Signals cannot be altered unintentionally, or that the altered signal characteristics are such that the control authority characteristics will not be degraded to a level that will prevent continued safe-flight and landing; and

(b) Routing of wire EFCS wires and wire bundles must provide separation and redundancy to ensure maximum protection from damage due to common cause.

Discussion: The Saab 2000 will be using fly-by-wire (FBW) as a means to command and control the elevator surface actuators. In the FBW design being presented, command and control of the control surfaces will be achieved by electronic (AC, DC, or digital) interfaces. These interfaces involve not only the direct commands to the elevator control surfaces, but feedback and sensor signals as well.

Malfunctions could cause system instabilities, loss of functions or freeze-up of the control actuator. It is imperative that after failure at least one path of the command signal, that is capable of providing safe flight and landing, remains continuous and unaltered.

The current regulations, which primarily address hydro-mechanical flight control systems, §§ 25.671 and 25.672, make no specific or implied reference that command and control signals remain unaltered from external interferences. Present designs feature steel cables and pushrods as a means to control hydraulic surface actuators. These designs are easily identifiable relative to the understanding that they are necessary for safe flight and landing and thus should be protected and continually inspected. However, the FBW designs are not easily discernible from non-essential electronics where placement of equipment and wire runs is not critical. Therefore, FBW requires additional attention when locating the equipment and wire runs.

It should be noted that:

—The wording "signals cannot be altered unintentionally" is used in the Special Condition to emphasize the need for design measures to protect the FBW control system from the effects of the fluctuations in electrical power, accidental damage, environmental factors such as temperature, local fires, exposure to reactive fluids, etc. and any disruptions that may affect the command signals as they are being transmitted from their source of origin to the Power Control Actuators.

3. Design Maneuver Requirements

(a) In lieu of compliance with § 25.331(c)(1) of the FAR, the airplane is assumed to be flying in steady level flight (point A1 within the maneuvering envelope of § 25.333(b)) and, except as limited by pilot effort in accordance with § 25.397(b), the cockpit pitching control device is suddenly moved to obtain extreme positive pitching acceleration (nose up). In defining the tail load condition, the response of the airplane must be taken into account. Airplane loads which occur subsequent to the point at which the normal acceleration at the center of gravity exceeds the maximum positive limit maneuvering factor, n , need not be considered.

(b) In addition to the requirements of § 25.331(c), it must be established that pitch maneuver loads induced by the system itself (e.g. abrupt changes in orders made possible by electrical rather than mechanical combination of different inputs) are acceptably accounted for.

Issued in Renton, Washington, on March 29, 1995.

Darrell M. Pederson,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM-100.

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BILLING CODE 4910-13-M

14 CFR Part 71

[Airspace Docket No. 95-AWA-5]

Modification of the Pensacola Regional, FL, Lexington Blue Grass, KY, Fayetteville Regional/Grannis Field, NC, Pope AFB, NC, and Providence, Theodore Francis Green State, RI, Class C Airspace Areas and Establishment of the Pensacola Regional, FL, and Providence Theodore Francis Green State, RI, Class E Airspace Areas

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This rule modifies the Class C airspace areas at Pensacola Regional, FL, Lexington Blue Grass, KY, Fayetteville Regional/Grannis Field, NC, Pope AFB, NC, and Providence, Theodore Francis Green State, RI, Airports. This action modifies the Lexington Blue Grass, KY, Fayetteville Regional/Grannis Field, NC, and Pope AFB, NC, airspace designations to reflect continuous operation and availability of services. The effective hours of the Pensacola Regional, FL, and Providence, Theodore Francis Green State, RI, Class C airspace areas are amended to coincide with the associated radar approach control facility's hours of operation. Class C airspace areas are predicated on an operational air traffic control tower

served by a radar approach control facility. The designated lateral boundaries and altitudes of these Class C airspace areas will remain as they currently exist. In addition, this action establishes Class E airspace at Pensacola Regional, FL, and Providence, Theodore Francis Green State, RI, Airports, when the associated radar approach control facility is not in operation.

EFFECTIVE DATE: 0901 UTC, May 25, 1995.

FOR FURTHER INFORMATION CONTACT: Patricia P. Crawford, Airspace and Obstruction Evaluation Branch (ATP-240), Airspace-Rules and Aeronautical Information Division, Air Traffic Rules and Procedures Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone: (202) 267-9255.

SUPPLEMENTARY INFORMATION:

History

On March 17, 1995, the FAA proposed to amend part 71 of the Federal Aviation Regulations (14 CFR part 71) to modify Class C airspace areas at Pensacola Regional, FL, Lexington Blue Grass, KY, Fayetteville Regional/Grannis Field, NC, Pope AFB, NC, and Providence, Theodore Francis Green State, RI, and to establish Class E airspace areas at Pensacola Regional, FL, and Providence, Theodore Francis Green State, RI (60 FR 14397).

Interested parties were invited to participate in this rulemaking proceeding by submitting written comments on the proposal to the FAA. No comments objecting to the proposal were received. Except for editorial changes, this amendment is the same as that proposed in the notice. Class C and Class E airspace designations are published in paragraphs 4000 and 6002, respectively, of FAA Order 7400.9B dated July 18, 1994, and effective September 16, 1994, which is incorporated by reference in 14 CFR 71.1. The Class C and E airspace designations listed in this document will be published subsequently in the Order.

The Rule

This amendment to part 71 of the Federal Aviation Regulations (14 CFR part 71) modifies the Class C airspace areas at Pensacola Regional, FL, Lexington Blue Grass, KY, Fayetteville Regional/Grannis Field, NC, Pope AFB, NC, and Providence, Theodore Francis Green State, RI, Airports. This action modifies the Lexington Blue Grass, KY, Fayetteville Regional/Grannis Field, NC, and Pope AFB, NC, airspace

designations to reflect continuous operation and availability of services.

The effective hours of the Pensacola Regional, FL, and Providence, Theodore Francis Green State, RI, Class C airspace areas are amended to coincide with the associated radar approach control facility's hours of operation. The designated lateral boundaries and altitudes of these Class C airspace areas will not change. In addition, this action establishes Class E airspace at Pensacola Regional, FL, and Providence, Theodore Francis Green State, RI, Airports when the associated radar approach control facility is not in operation.

The FAA has determined that this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(1) is not a “significant regulatory action” under Executive Order 12866; (2) is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 71

Airspace, Incorporation by reference, Navigation (air).

Adoption of the Amendment

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR part 71 as follows:

PART 71—[AMENDED]

1. The authority citation for 14 CFR part 71 continues to read as follows:

Authority: 49 U.S.C. app. 1348(a), 1354(a), 1510; E.O. 10854, 24 FR 9565, 3 CFR, 1959–1963 Comp., p. 389; 49 U.S.C. 106(g); 14 CFR 11.69.

§ 71.1 [Amended]

2. The incorporation by reference in 14 CFR 71.1 of Federal Aviation Administration Order 7400.9B, Airspace Designations and Reporting Points, dated July 18, 1994, and effective September 16, 1994, is amended as follows:

Paragraph 4000—Subpart C—Class C Airspace

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ASO FL C Pensacola Regional Airport, FL (Revised)

Pensacola Regional Airport, FL
(Lat. 30°28'25" N., long. 87°11'12" W.)

That airspace extending upward from the surface to and including 4,200 feet MSL within a 5-mile radius of the Pensacola Regional Airport, and that airspace extending upward from 1,400 feet MSL to and including 4,200 feet MSL within a 10-mile radius of the Pensacola Regional Airport, excluding that airspace within the 5-mile circle of the Pensacola NAS, FL, Class C airspace area. This Class C airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

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ASO KY C Lexington, Blue Grass Airport, KY (Revised)

Lexington, Blue Grass Airport, KY
(Lat. 38°02'13" N., long. 84°36'19" W.)

That airspace extending upward from the surface to and including 5,000 feet MSL within a 5-mile radius of the Blue Grass Airport; and that airspace extending upward from 2,200 feet MSL to and including 5,000 feet MSL within a 10-mile radius of the airport.

* * * * *

ASO NC C Fayetteville Regional/Grannis Field, NC, (Revised)

Fayetteville Regional/Grannis Field, NC
(Lat. 34°59'29" N., long. 78°52'48" W.)
Gray's Creek Airport
(Lat. 34°53'04" N., long. 78°50'08" W.)

That airspace extending upward from the surface to and including 4,200 feet MSL within a 5-mile radius of the Fayetteville Regional/Grannis Field excluding that airspace below 1,400 feet MSL within a 1.5-mile radius of Gray's Creek Airport; and that airspace within a 10-mile radius of the airport extending upward from 1,400 feet MSL to and including 4,200 feet MSL, excluding that airspace contained within Restricted Areas R-5311A, B and C when they are active.

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ASO NC C Pope AFB, NC (Revised)

Pope AFB, NC
(Lat. 35°10'16" N., long. 79°00'52" W.)

That airspace extending upward from the surface to and including 4,200 feet MSL within a 5-mile radius of the Pope AFB, excluding that airspace below 1,400 feet MSL contained in the Simmons Army Air Field, NC, Class D airspace area, and excluding that airspace contained within Restricted Areas R-5311A, B and C when they are active; and that airspace within a 10-mile radius of Pope AFB extending upward from 2,000 feet MSL to and including 4,200 feet MSL, beginning at the northern boundaries of R-5311A, B and C clockwise to the 020° bearing from the airport; and that airspace extending upward from 1,400 feet MSL to and including 4,200 feet MSL within a 10-mile radius of the airport beginning at the 020° bearing from the

airport clockwise to the northern boundaries of R-5311A, B and C, excluding that airspace contained in R-5311A, B and C when they are active and excluding that airspace contained in the Fayetteville Regional/Grannis Field Airport, NC, Class C airspace area.

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ANE RI C Providence, Theodore Francis Green State Airport, RI (Revised)

Providence, Theodore Francis Green State Airport, RI
(Lat. 41°43'25" N., long. 71°25'36" W.)

That airspace extending upward from the surface to and including 4,100 feet MSL within a 5-mile radius of the Theodore Francis Green State Airport and that airspace extending upward from 1,300 feet MSL to and including 4,100 feet MSL within a 10-mile radius of the airport from the 015° bearing from the airport clockwise to the 195° bearing from the airport, and that airspace extending upward from 1,700 feet MSL to and including 4,100 feet MSL within a 10-mile radius of the airport from the 195° bearing from the airport clockwise to the 015° bearing from the airport. This Class C airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

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Paragraph 6002—Subpart E—Class E Airspace Areas Designated as a Surface Area for an Airport

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ASO FL E2 Pensacola Regional Airport, FL (New)

Pensacola Regional Airport, FL
(Lat. 30°28'25" N., long. 87°11'12" W.)

Within a 5-mile radius of the Pensacola Regional Airport. This Class E airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

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ANE RI E2 Providence, Theodore Francis Green State Airport, RI (New)

Providence, Theodore Francis Green State Airport, RI
(Lat. 41°43'25" N., long. 71°25'36" W.)

Within a 5-mile radius of the Theodore Francis Green State Airport. This Class E airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

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Issued in Washington, DC, on March 29, 1995.

Nancy B. Kalinowski,

Acting Manager, Airspace-Rules and Aeronautical Information Division.

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BILLING CODE 4910-13-P

14 CFR Part 97

[Docket No. 28162; Amdt. No. 1656]

Standard Instrument Approach Procedures; Miscellaneous Amendments

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment establishes, amends, suspends, or revokes Standard Instrument Approach Procedures (SIAPs) for operations at certain airports. These regulatory actions are needed because of the adoption of new or revised criteria, or because of changes occurring in the National Airspace System, such as the commissioning of new navigational facilities, addition of new obstacles, or changes in air traffic requirements. These changes are designed to provide safe and efficient use of the navigable airspace and to promote safe flight operations under instrument flight rules at the affected airports.

DATES: An effective date for each SIAP is specified in the amendatory provisions.

Incorporation by reference approved by the Director of the Federal Register on December 31, 1980, and reapproved as of January 1, 1982.

ADDRESSES: Availability of matters incorporated by reference in the amendment is as follows:

For Examination

1. FAA Rules Docket, FAA Headquarters Building, 800 Independence Avenue, SW., Washington, DC 20591;
2. The FAA Regional Office of the region in which the affected airport is located; or
3. The Flight Inspection Area Office which originated the SIAP.

For Purchase

Individual SIAP copies may be obtained from:

1. FAA Public Inquiry Center (APA-200), FAA Headquarters Building, 800 Independence Avenue, SW., Washington, DC 20591; or
2. The FAA Regional Office of the region in which the affected airport is located.

By Subscription

Copies of all SIAPs, mailed once every 2 weeks, are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

FOR FURTHER INFORMATION CONTACT: Paul J. Best, Flight Procedures Standards

Branch (AFS-420), Technical Programs Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267-8277.

SUPPLEMENTARY INFORMATION: This amendment to part 97 of the Federal Aviation Regulations (14 CFR part 97) establishes, amends, suspends, or revokes Standard Instrument Approach Procedures (SIAPs). The complete regulatory description of each SIAP is contained in official FAA form documents which are incorporated by reference in this amendment under 5 U.S.C. 552(a), 1 CFR part 51, and § 97.20 of the Federal Aviation Regulations (FAR). The applicable FAA Forms are identified as FAA Forms 8260-3, 8260-4, and 8260-5. Materials incorporated by reference are available for examination or purchase as stated above.

The large number of SIAPs, their complex nature, and the need for a special format make their verbatim publication in the **Federal Register** expensive and impractical. Further, airmen do not use the regulatory text of the SIAPs, but refer to their graphic depiction on charts printed by publishers of aeronautical materials. Thus, the advantages of incorporation by reference are realized and publication of the complete description of each SIAP contained in FAA form documents is unnecessary. The provisions of this amendment state the affected CFR (and FAR) sections, with the types and effective dates of the SIAPs. This amendment also identifies the airport, its location, the procedure identification and the amendment number.

The Rule

This amendment to part 97 is effective upon publication of each separate SIAP as contained in the transmittal. Some SIAP amendments may have been previously issued by the FAA in a National Flight Data Center (FDC) Notice to Airmen (NOTAM) as an emergency action of immediate flight safety relating directly to published aeronautical charts. The circumstances which created the need for some SIAP amendments may require making them effective in less than 30 days. For the remaining SIAPs, an effective date at least 30 days after publication is provided.

Further, the SIAPs contained in this amendment are based on the criteria contained in the U.S. Standard for Terminal Instrument Approach Procedures (TERPS). In developing these SIAPs, the TERPS criteria were